

Title: SI-MOS HIGH-FREQUENCY SEMICONDUCTOR DEVICE AND THE MANUFACTURING METHOD  
OF THE SAME

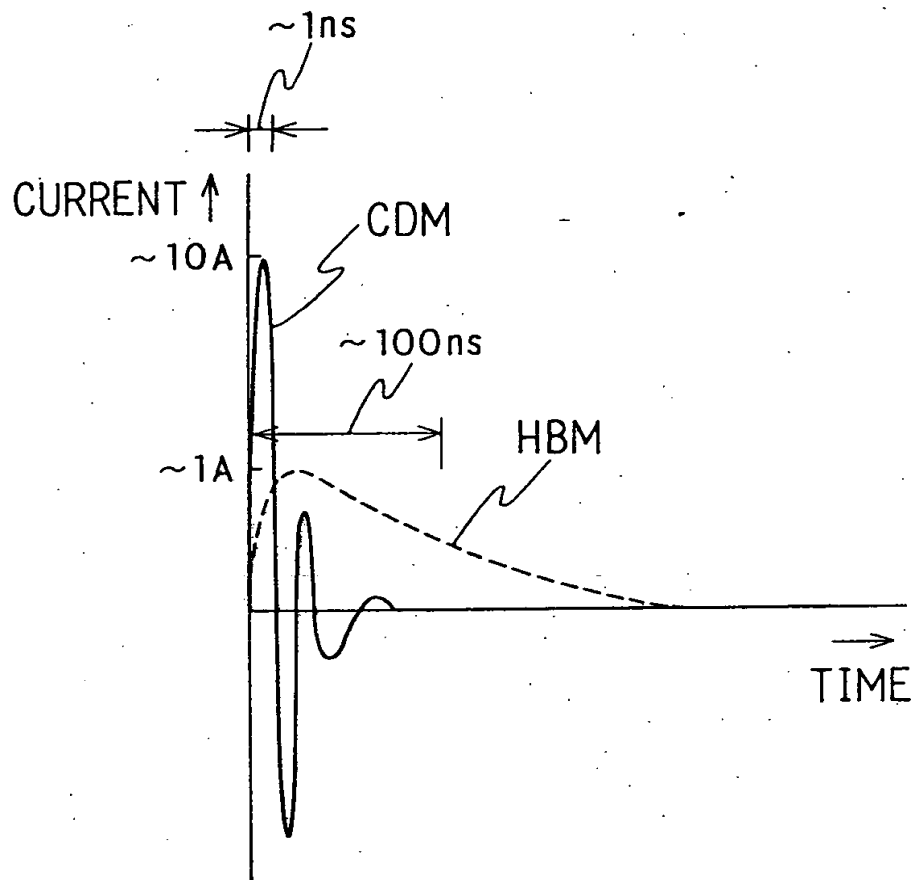
Inventors: Takahiro OHNAKADO

Atty Docket No.: 401308

Leydig, Voit & Mayer, Ltd.

202-737-6770

FIG. 1



0041501.072501

Title: SI-MOS HIGH-FREQUENCY SEMICONDUCTOR DEVICE AND THE MANUFACTURING METHOD  
OF THE SAME

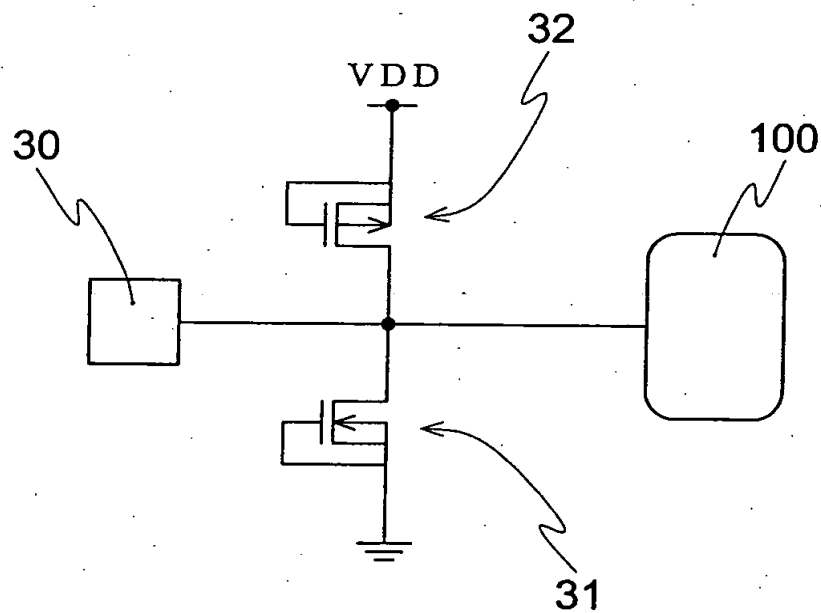
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202-737-6770

FIG. 2



09941584.072501

FIG. 3

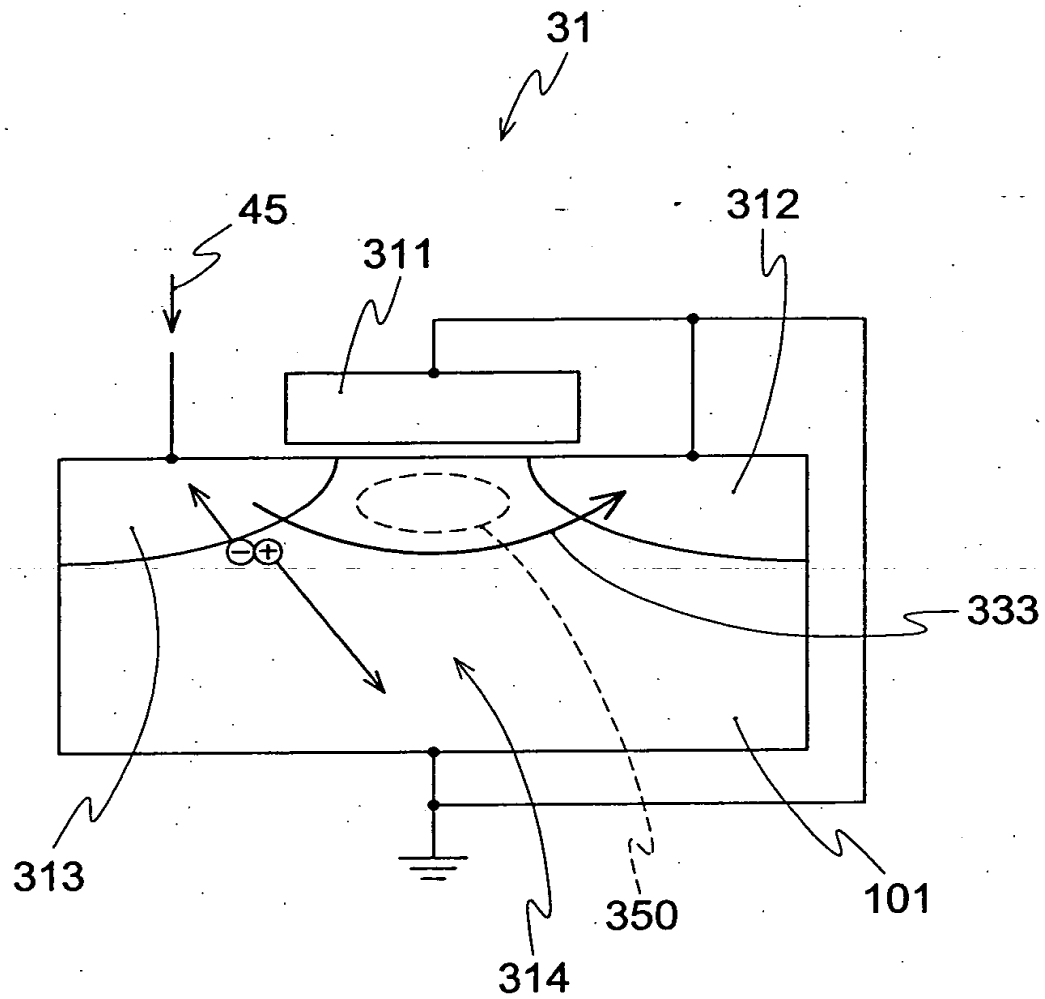


FIG. 4

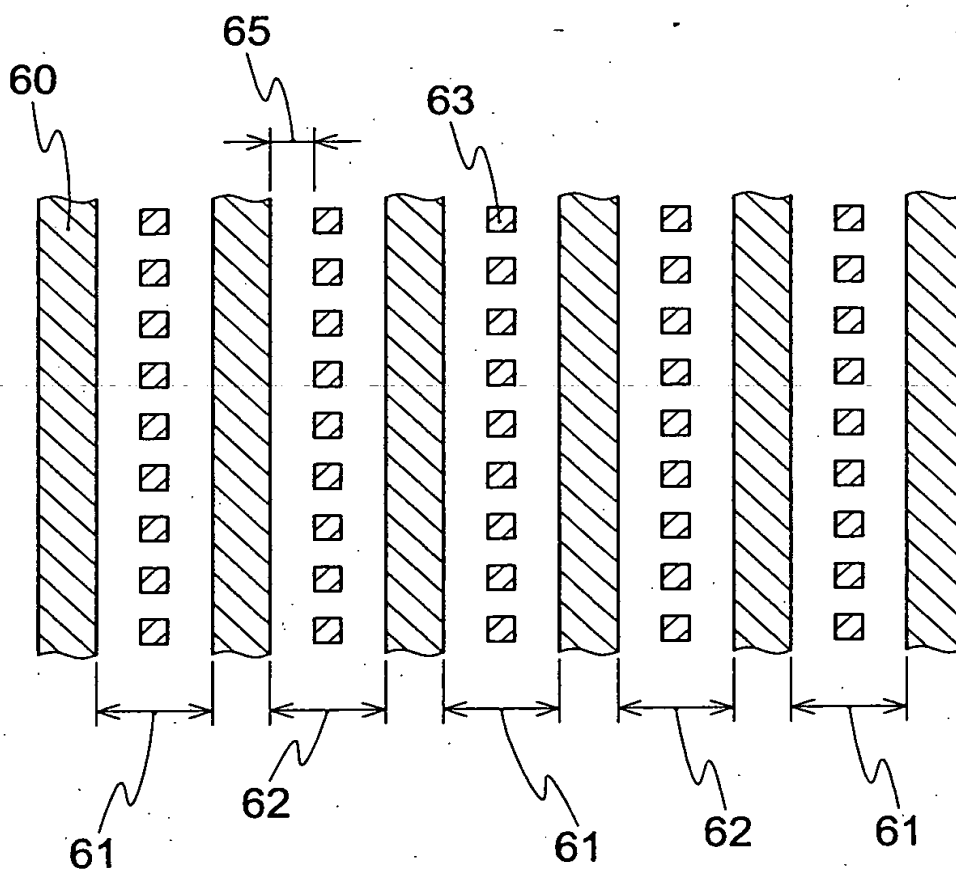
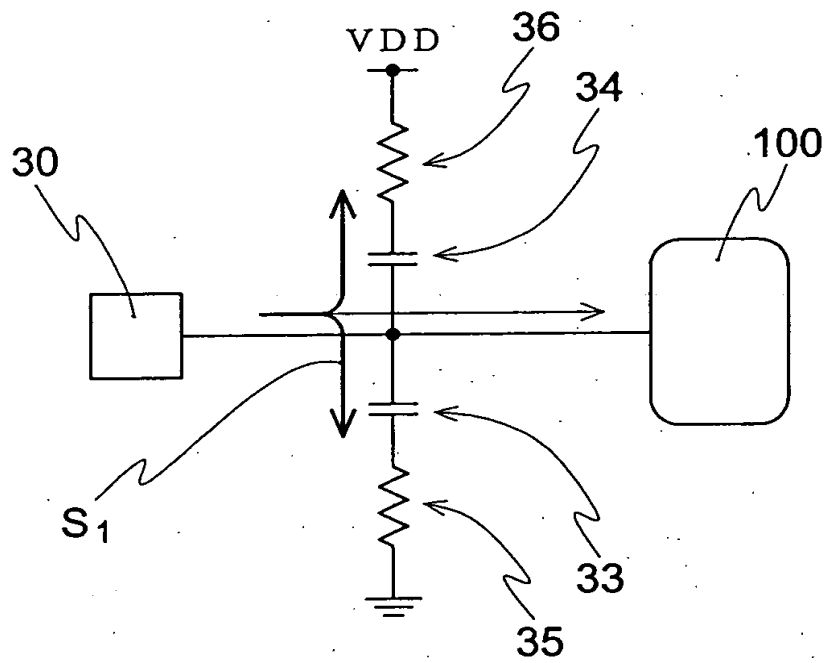


FIG. 5



00014501.025001

FIG. 6(a)

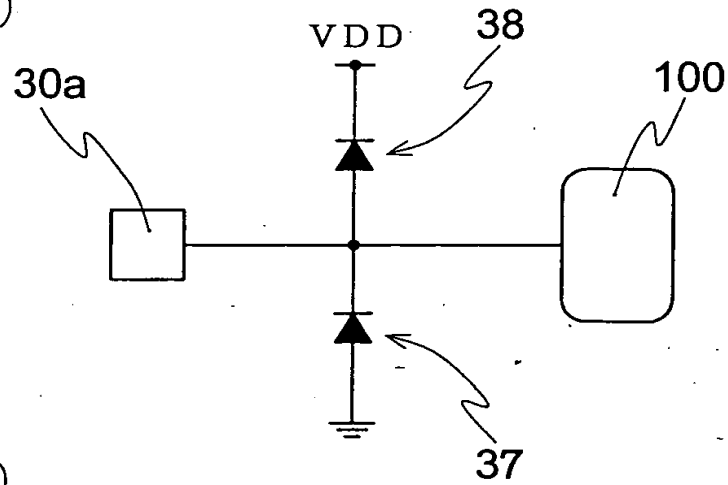


FIG. 6(b)

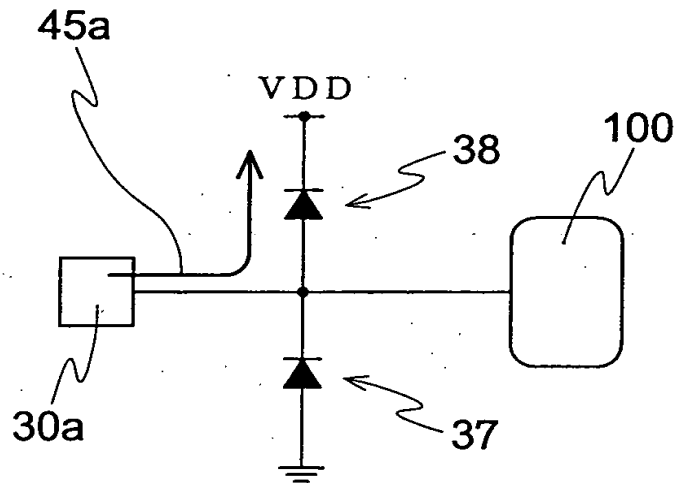


FIG. 6(c)

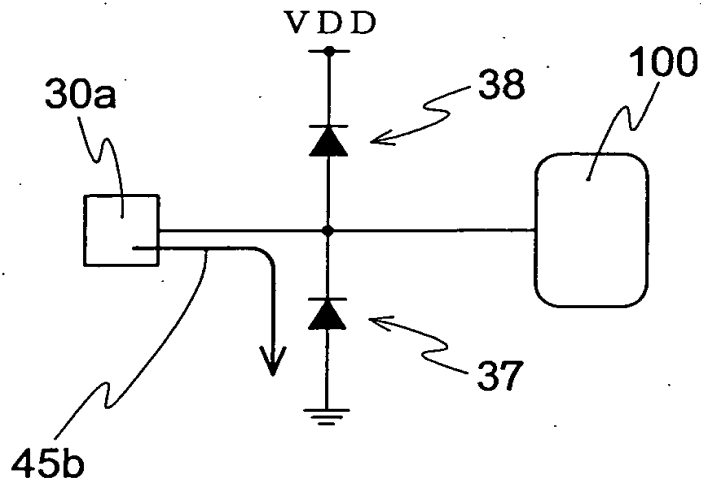


FIG. 7(a)

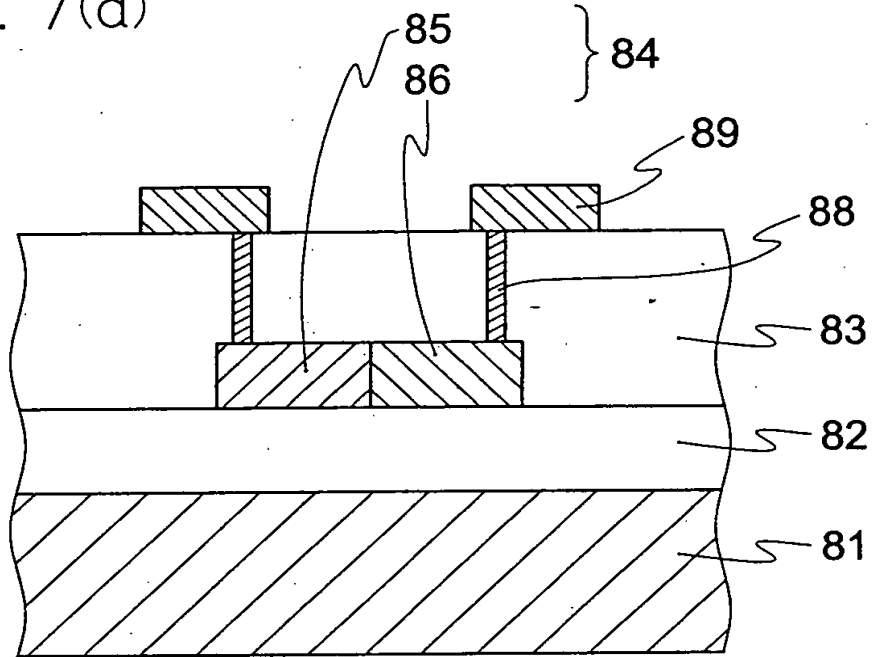


FIG. 7(b)

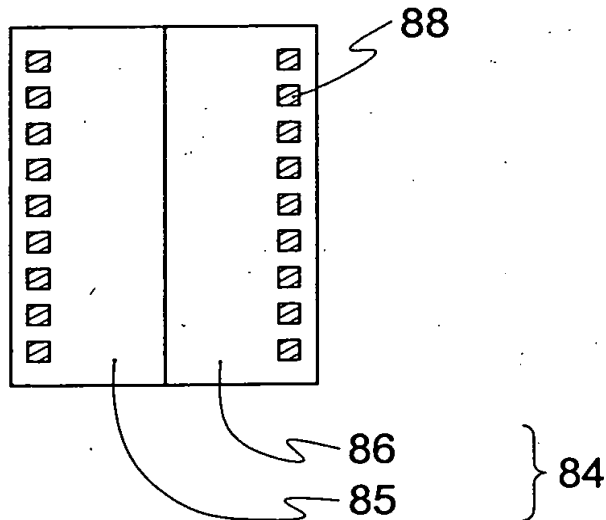


FIG. 8

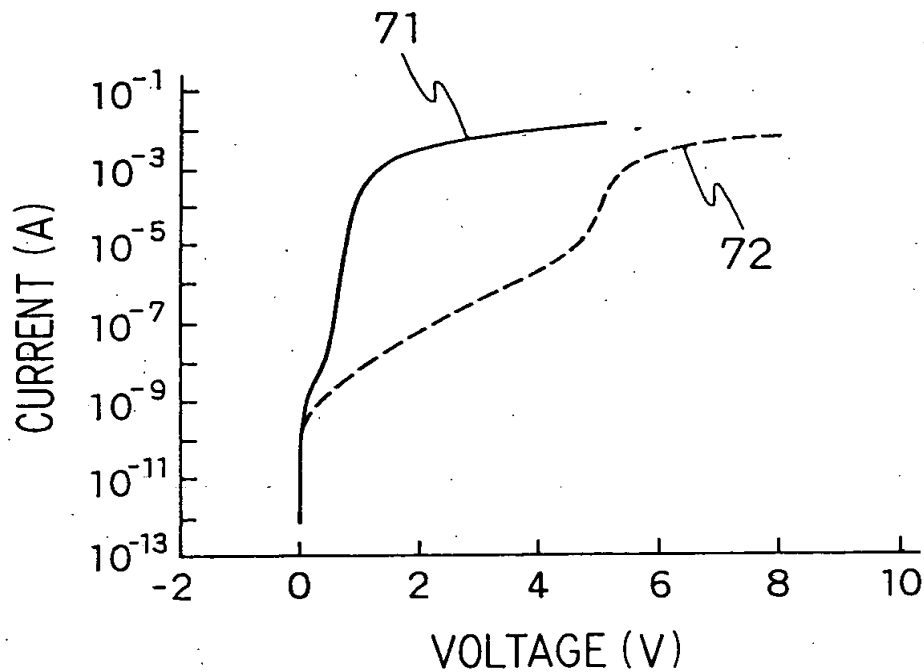




FIG. 9

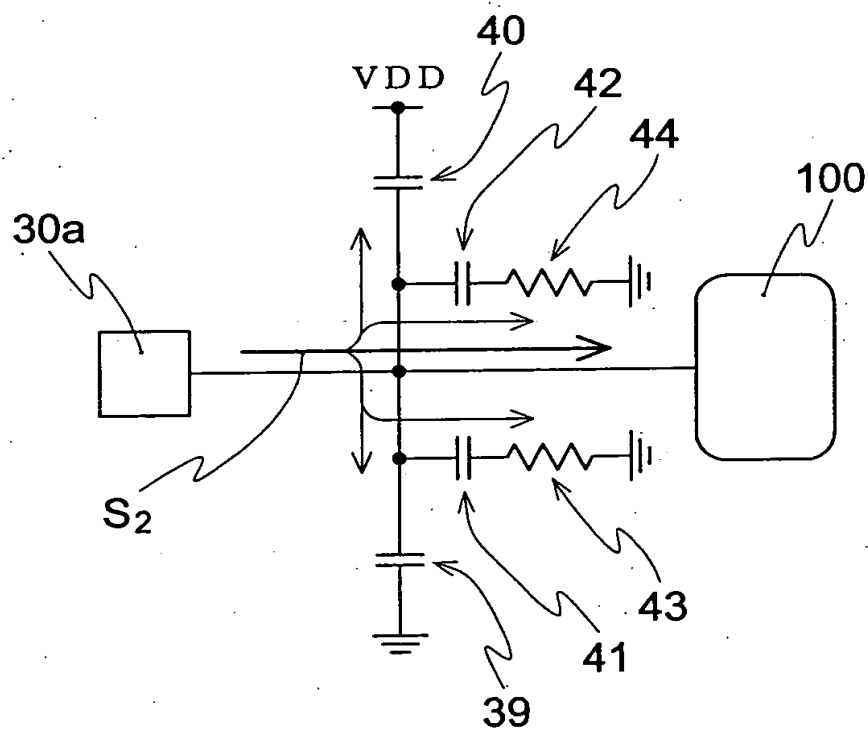


FIG.10

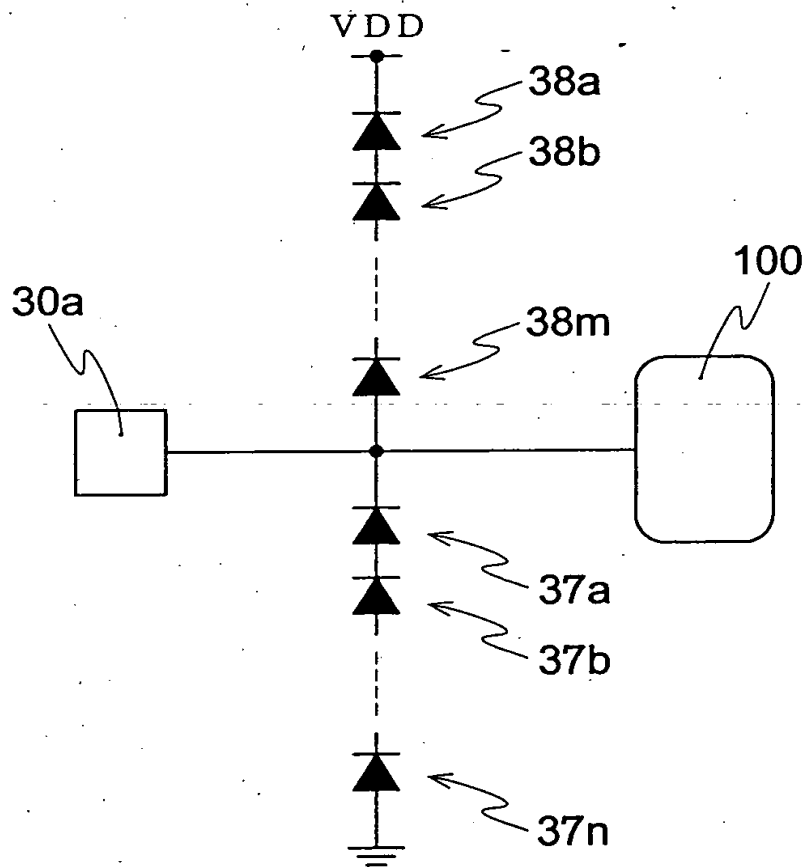


Figure 1 is a schematic diagram of a cross-section of a semiconductor device. It shows a substrate 111 with a top layer 110. A vertical line 112 indicates a depth or thickness. The top layer 110 is divided into three regions labeled 200, 202, and 201. A horizontal line with a cross symbol and a circle with a minus sign is shown below the top layer.

Figure 1 is a schematic diagram of a cross-section of a semiconductor device. It shows a substrate 110 with a top surface 200, a side surface 201, and a bottom surface 202. A layer 111 is formed on the top surface 200, with a thickness 112. A circular feature 111 is shown on the bottom surface 202.

FIG. 12(a)

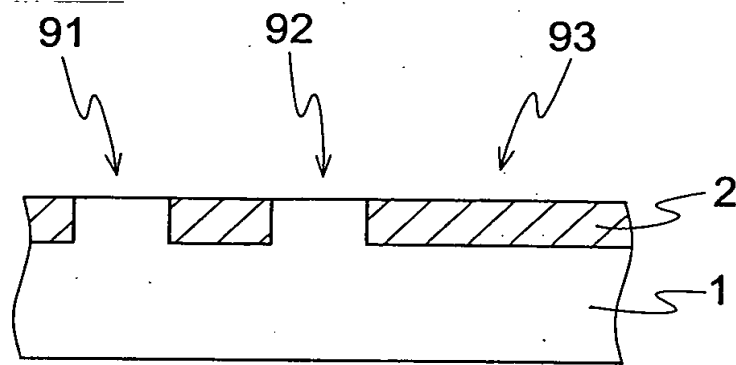


FIG. 12(b)

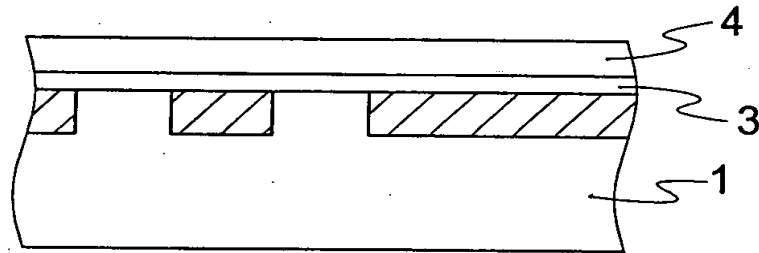


FIG. 12(c)

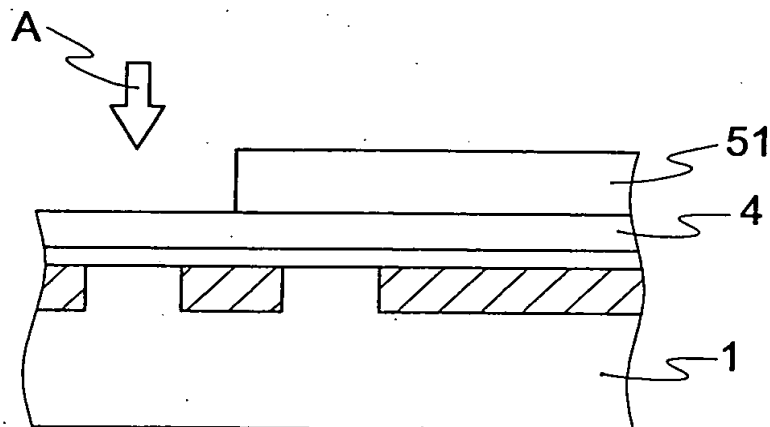


FIG. 13 (a)

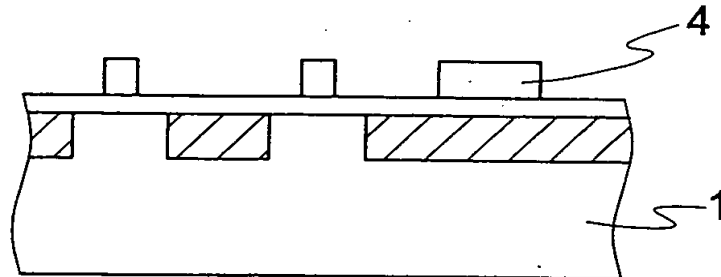


FIG. 13 (b)

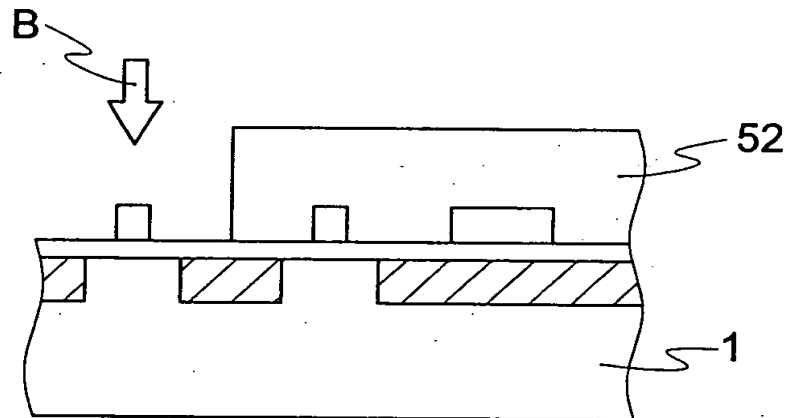
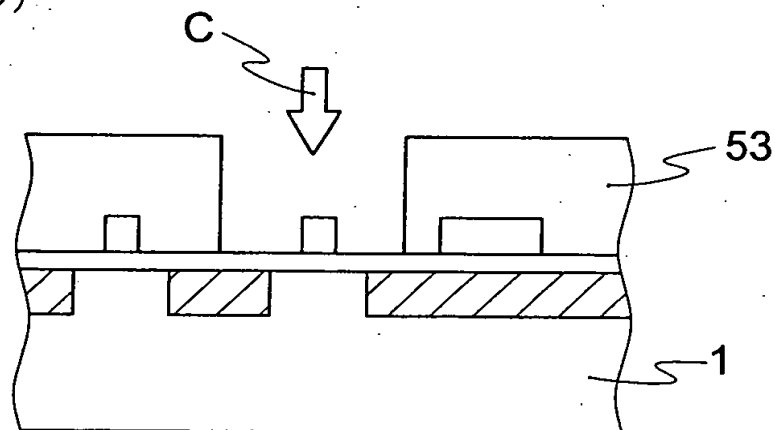


FIG. 13 (c)



0091581 022504  
F05240 1851600

FIG. 14 (a)

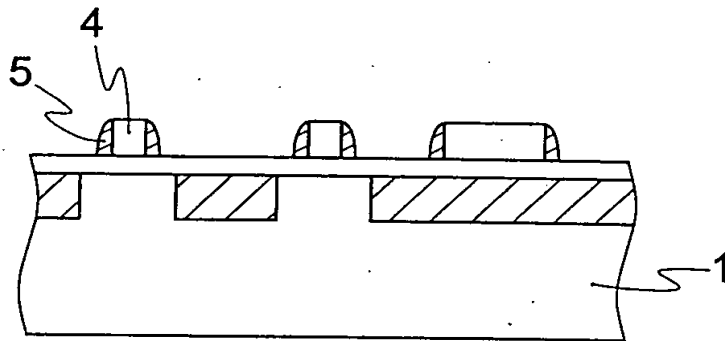


FIG. 14 (b)

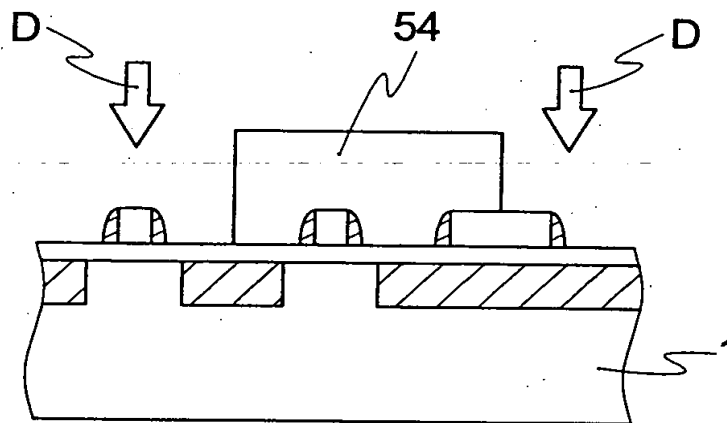
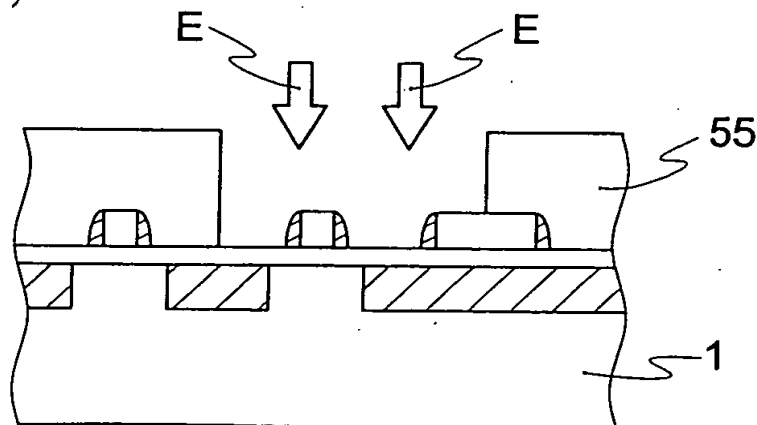


FIG. 14 (c)



001154 073501  
105220 10511600

FIG. 15 (a)

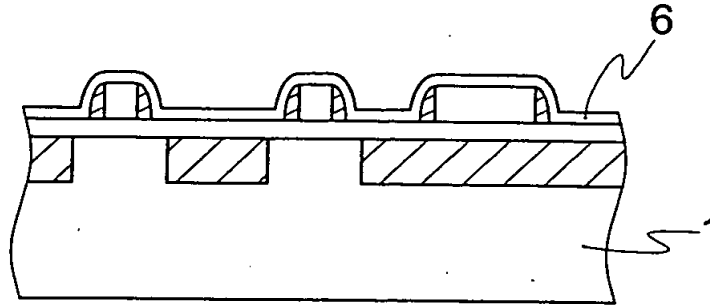


FIG. 15 (b)

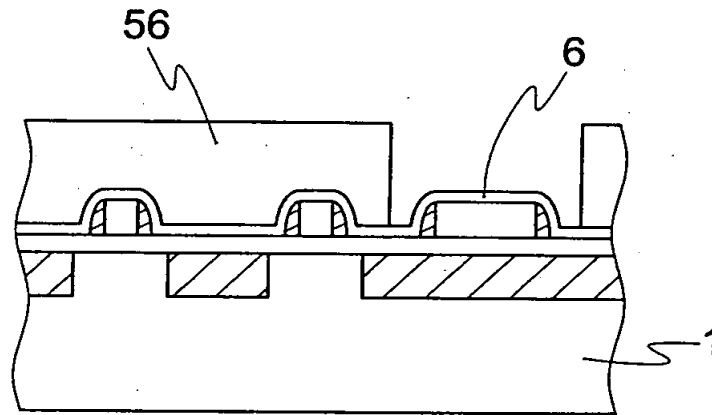
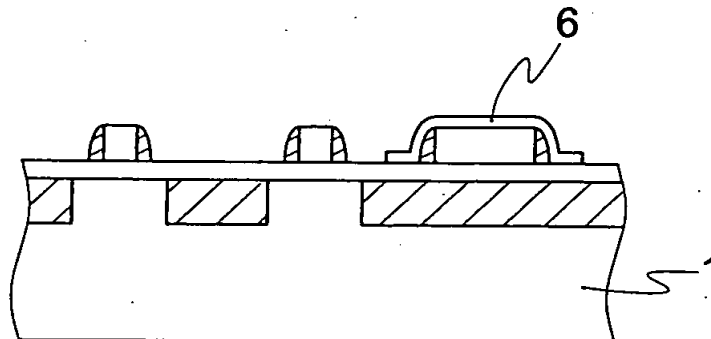


FIG. 15 (c)



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FIG. 16 (a)

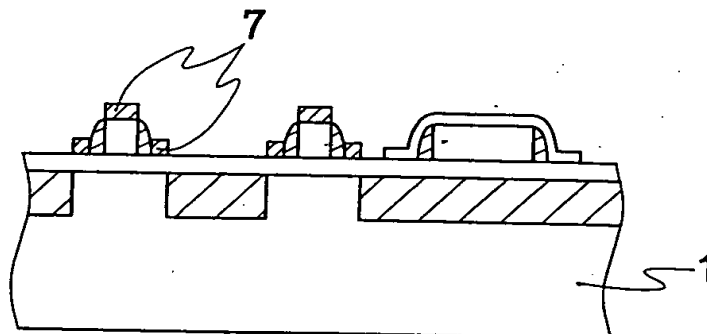


FIG. 16 (b)

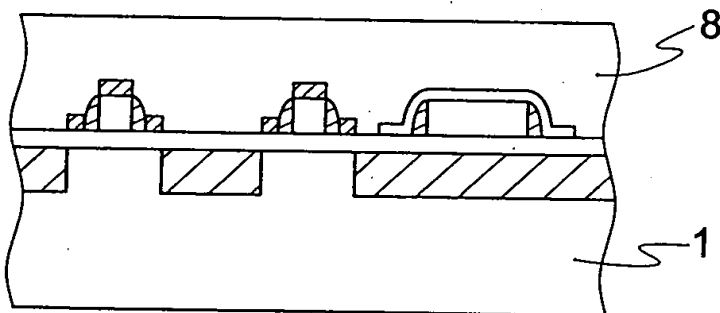




FIG. 17 (a)

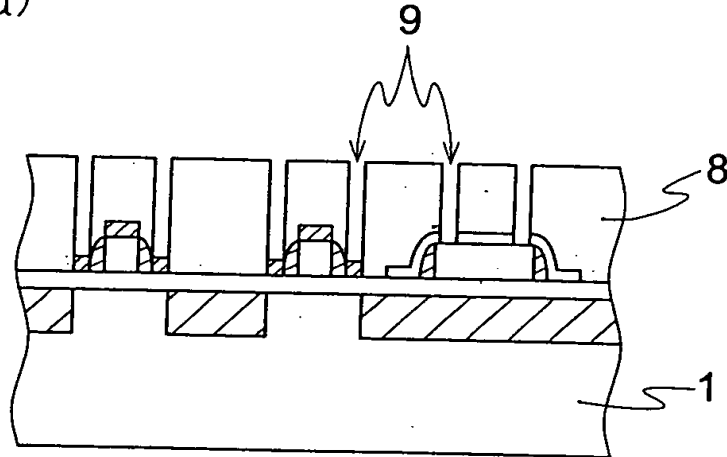


FIG. 17 (b)

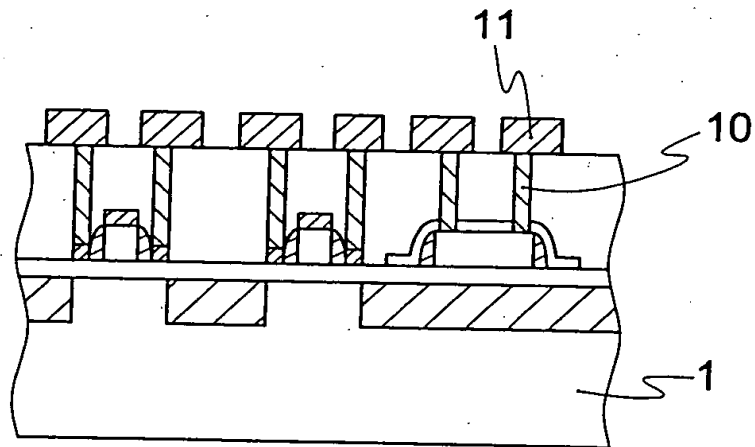


FIG. 18(a)

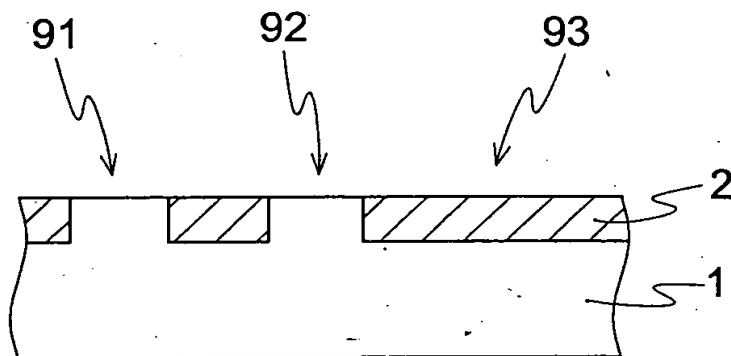


FIG. 18(b)

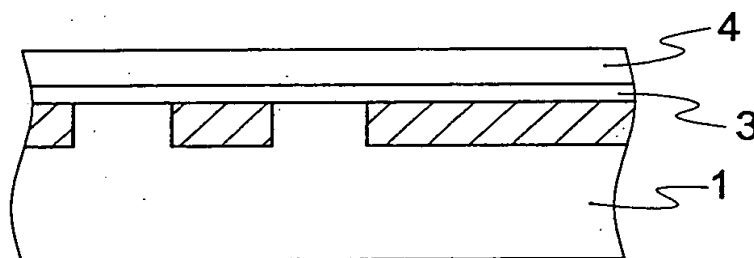


FIG. 18(c)

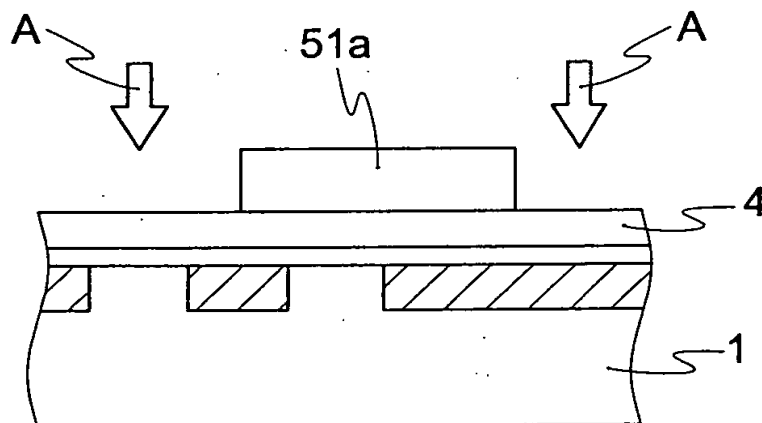


FIG. 19(a)

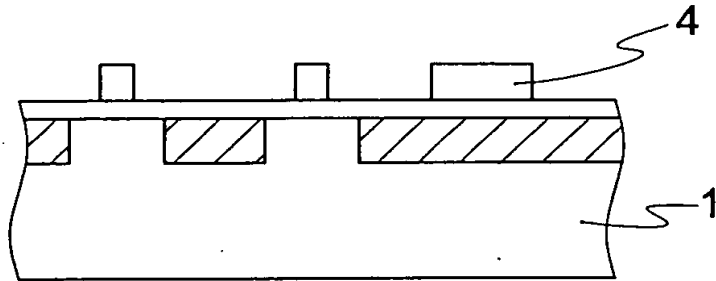


FIG. 19(b)

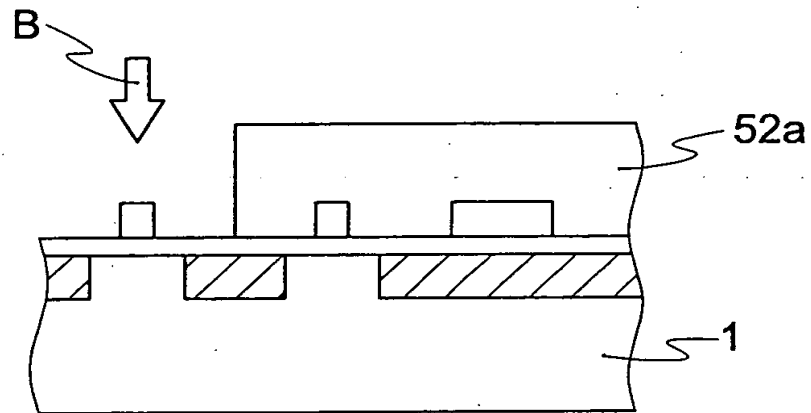


FIG. 19(c)

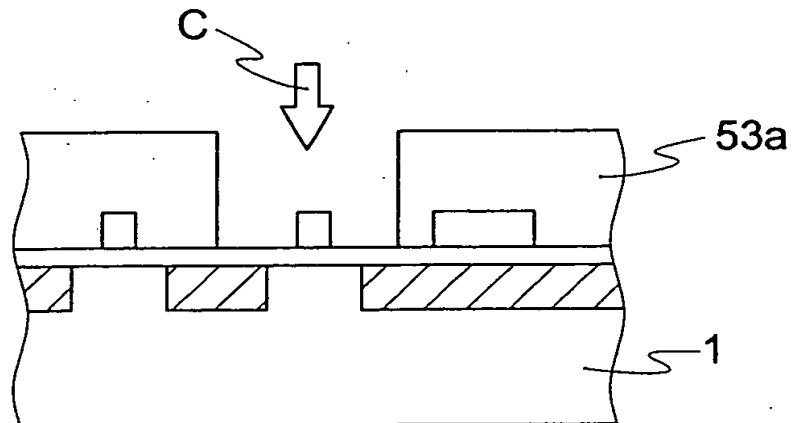


FIG. 20(a)

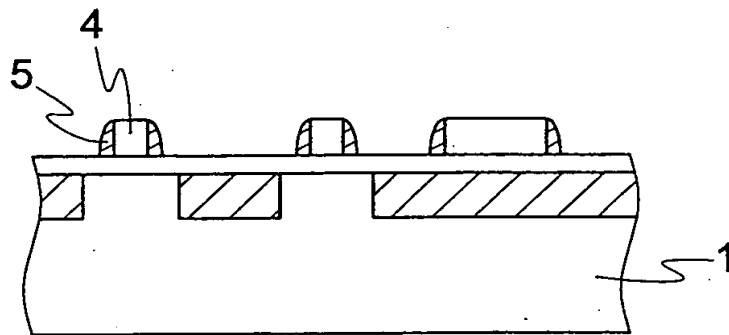


FIG. 20(b)

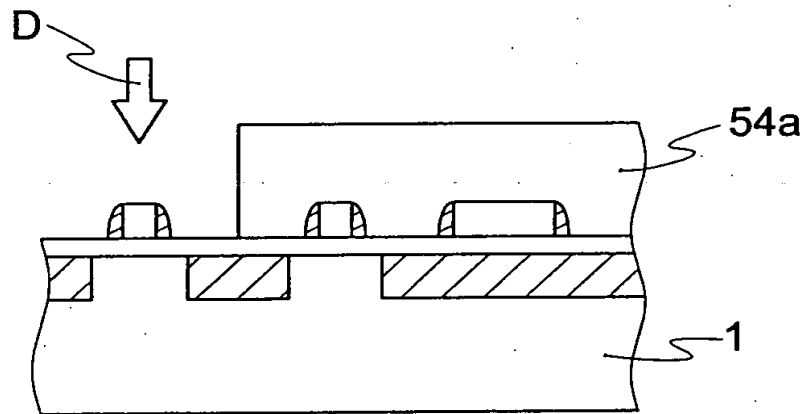
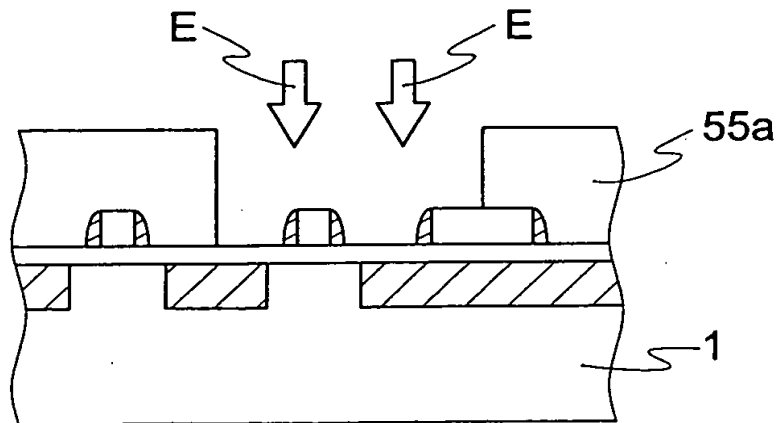


FIG. 20(c)



0001581.073594  
FIG. 20(a)

FIG. 21(a)

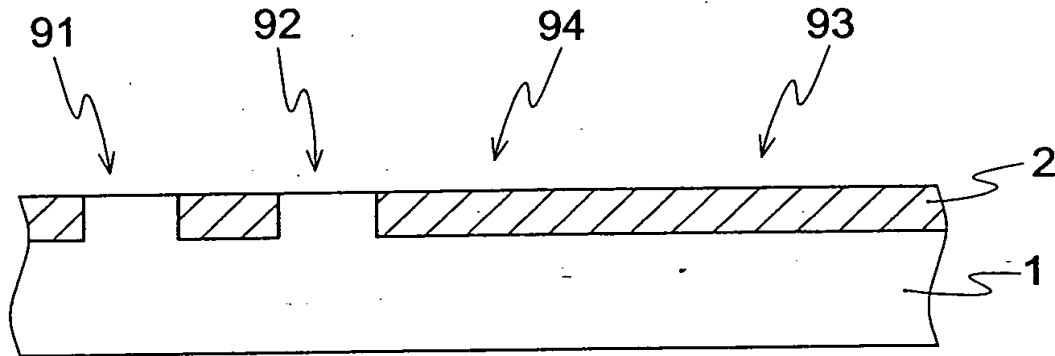


FIG. 21(b)

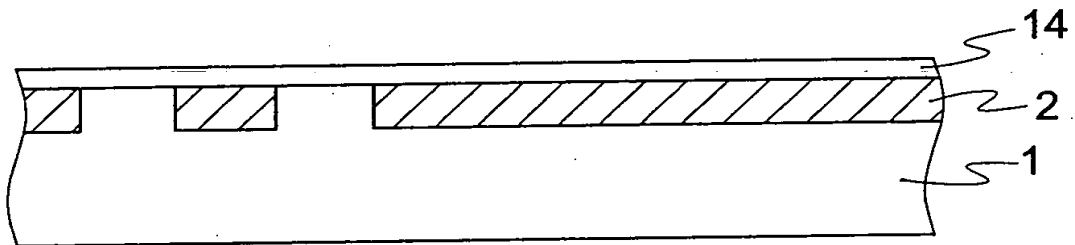


FIG. 21(c)

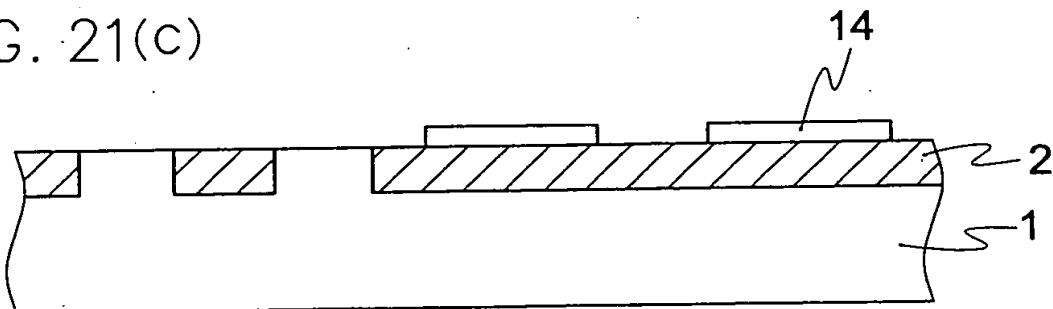


FIG. 22(a)

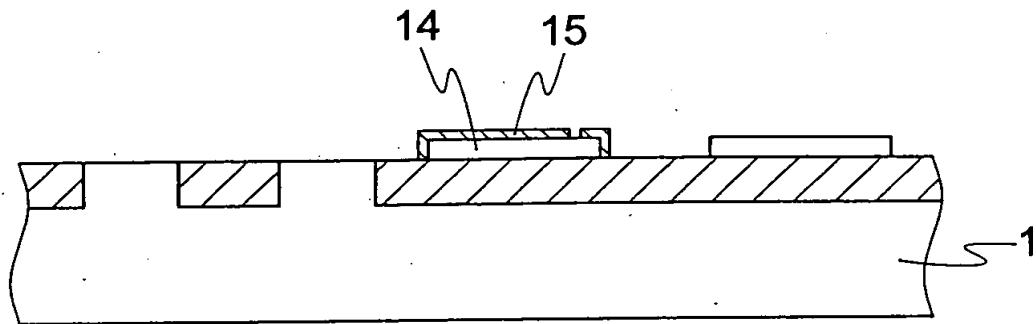


FIG. 22(b)

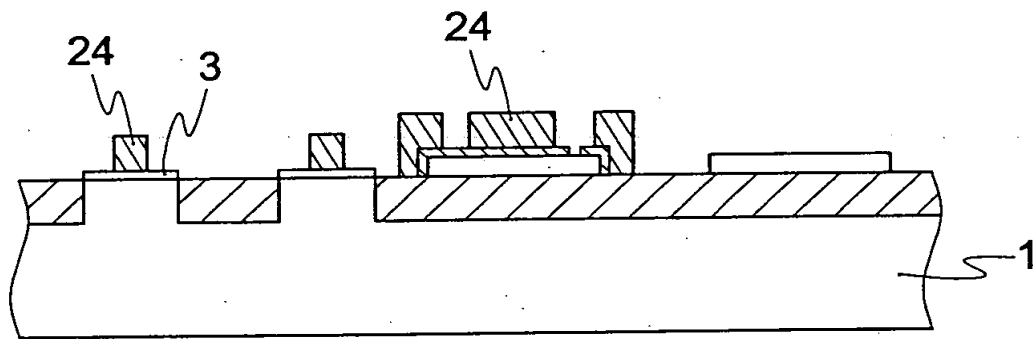


FIG. 22(c)

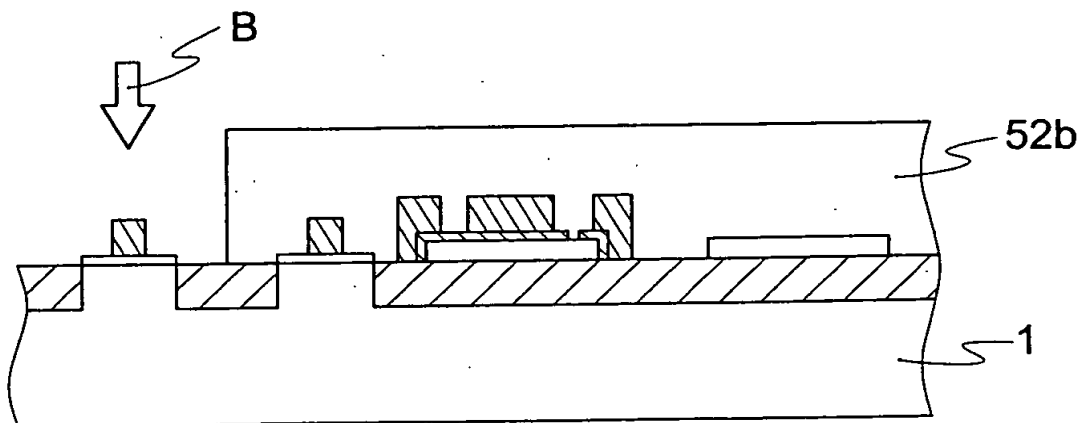


FIG. 23(a)

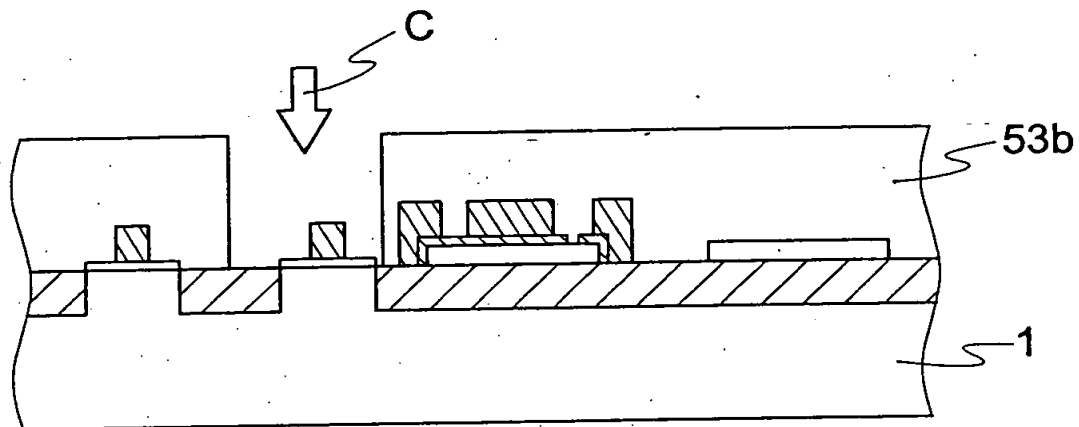


FIG. 23(b)

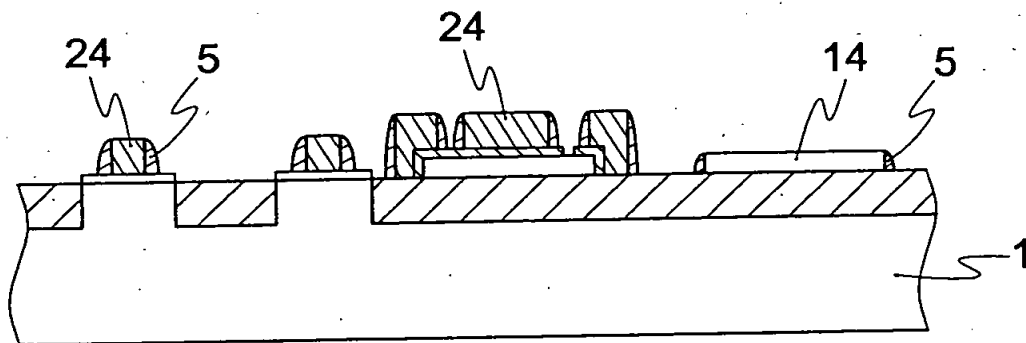


FIG. 24(a)

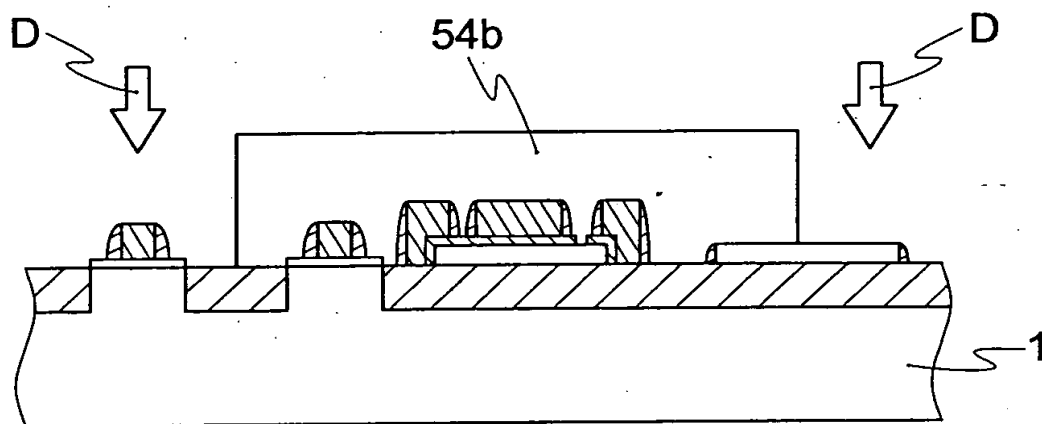


FIG. 24(b)

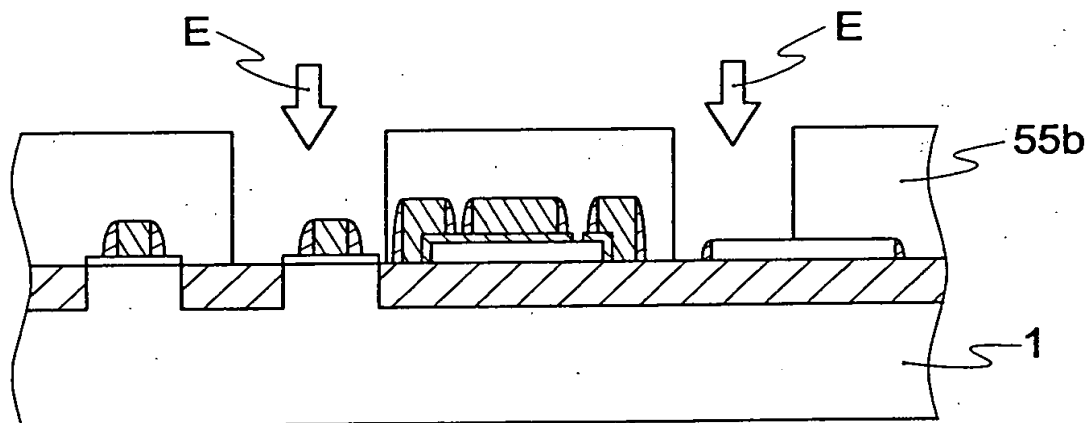




FIG. 25(a)

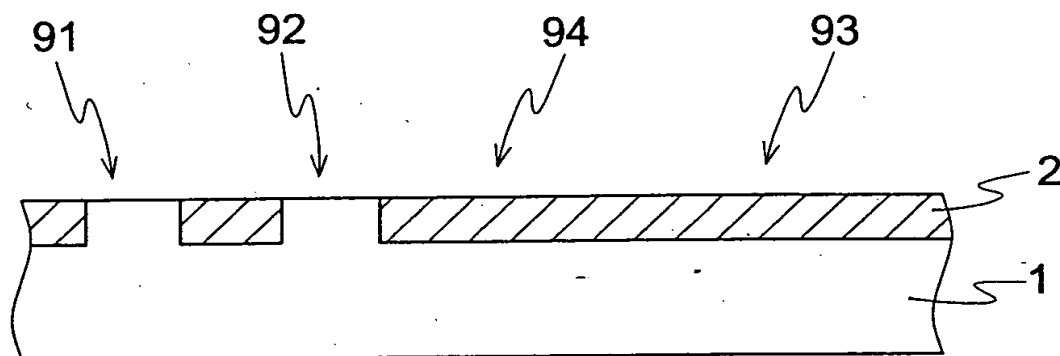


FIG. 25(b)

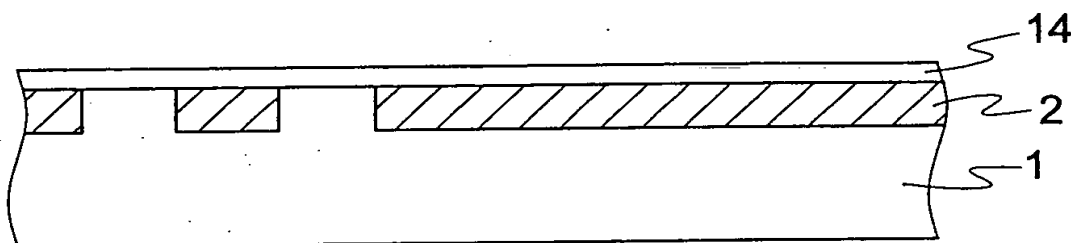


FIG. 25(c)

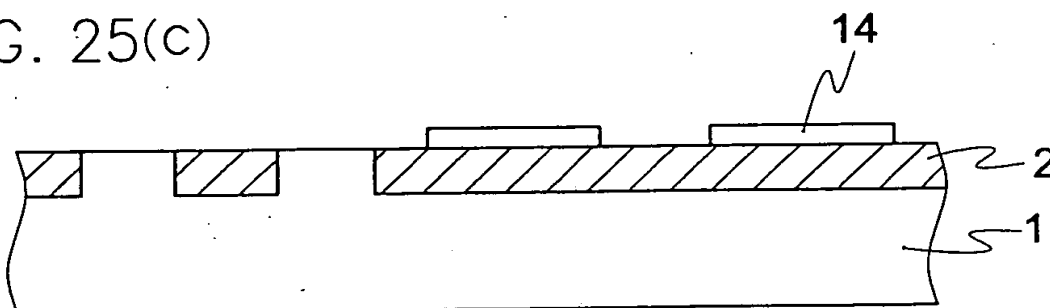


FIG. 26(a)

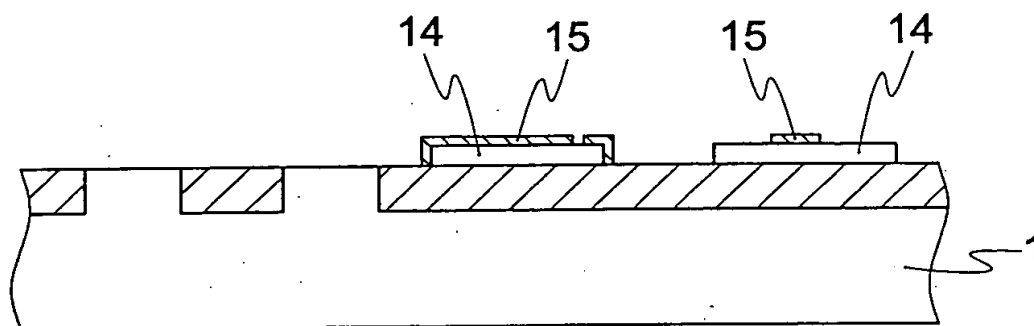


FIG. 26(b)

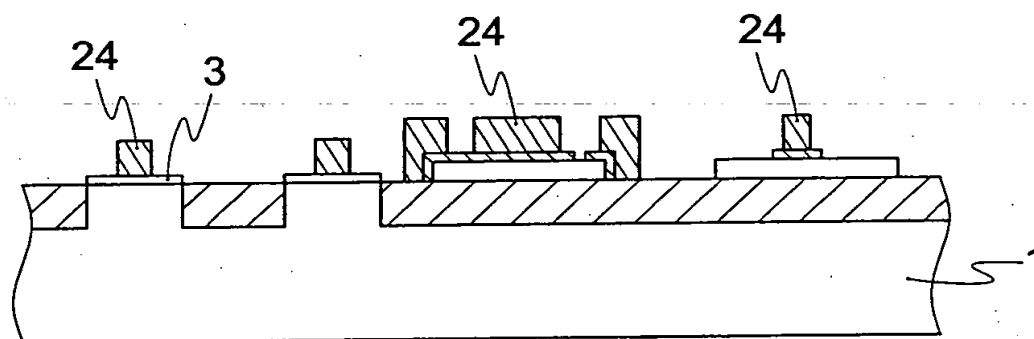


FIG. 26(c)

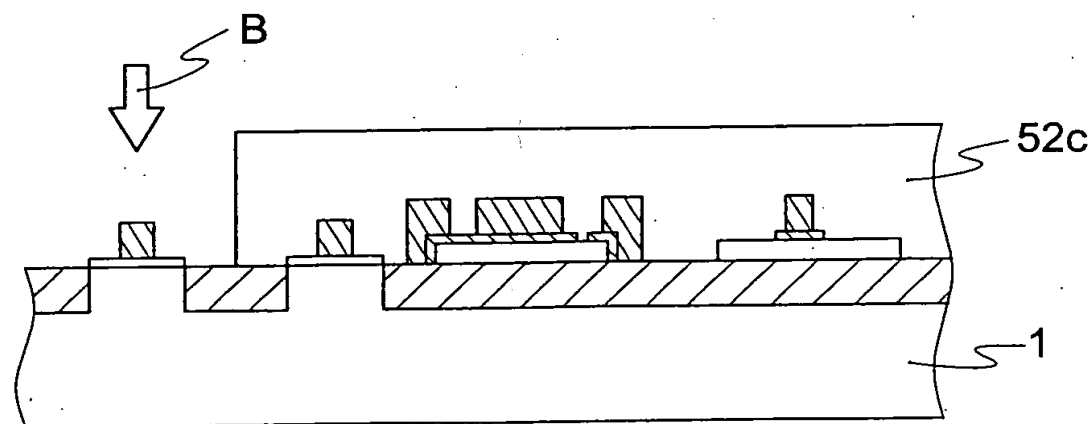


FIG. 27 (a)

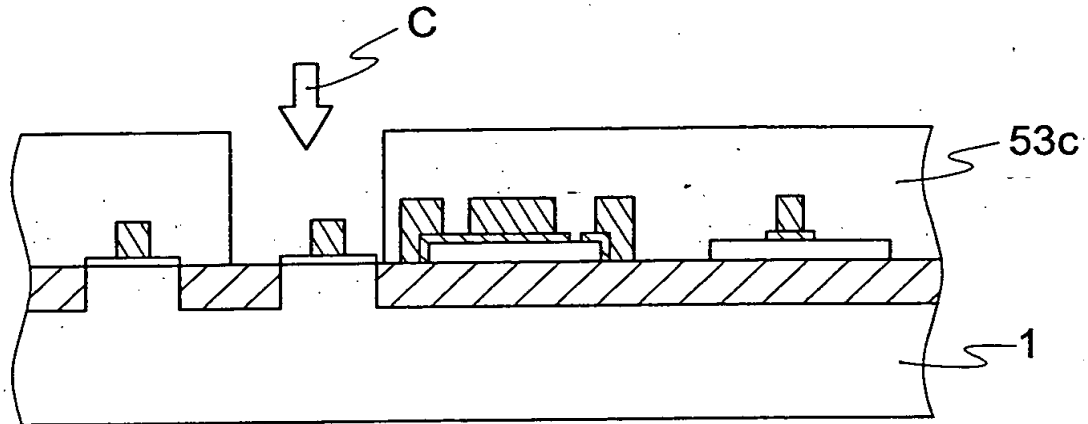


FIG. 27 (b)

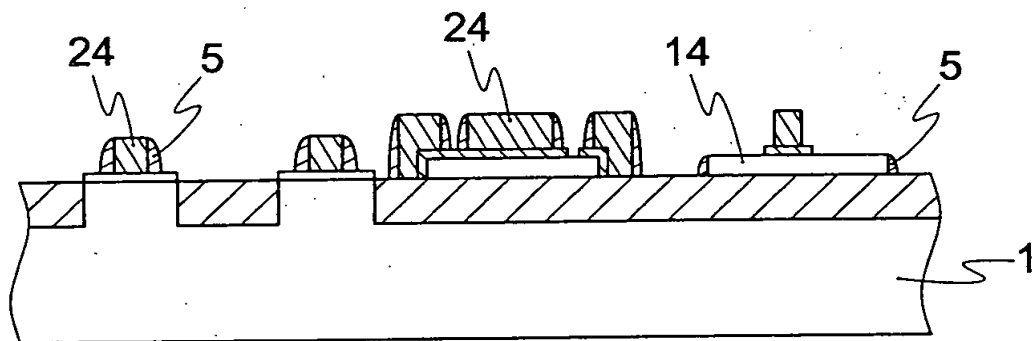


FIG. 28(a)

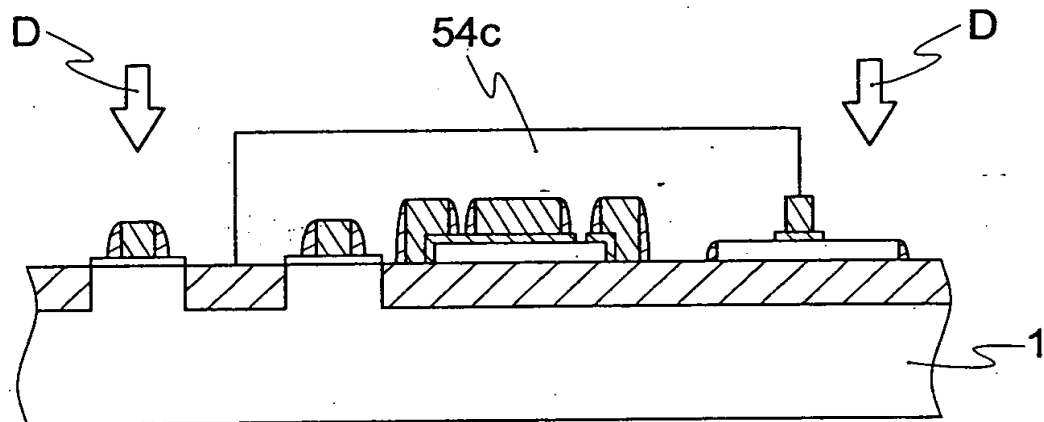


FIG. 28(b)

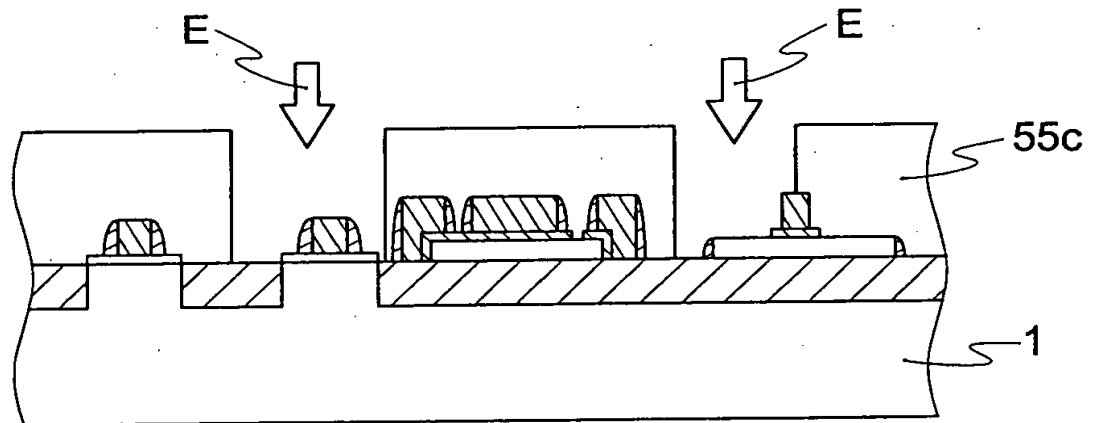


FIG. 29(a)

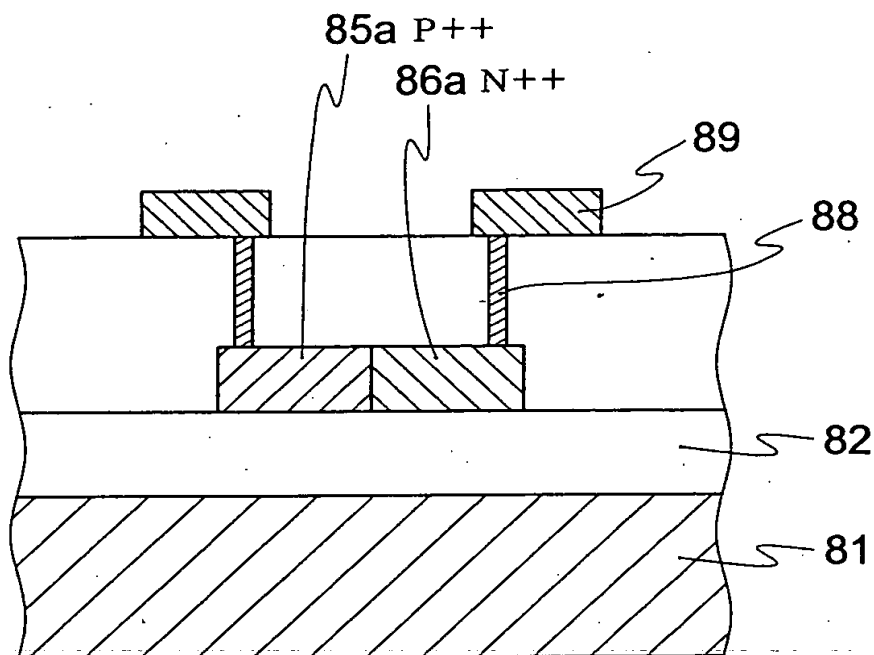


FIG. 29(b)

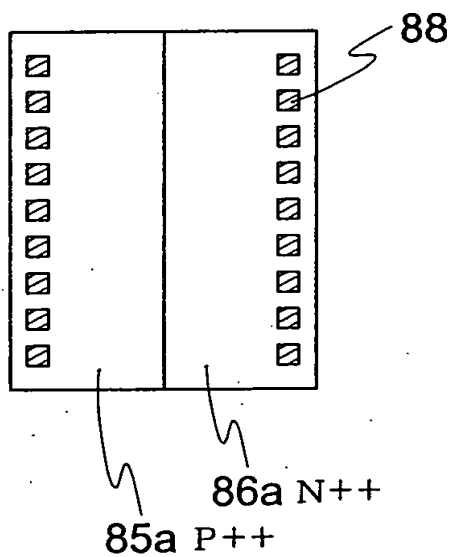


FIG. 30(a)

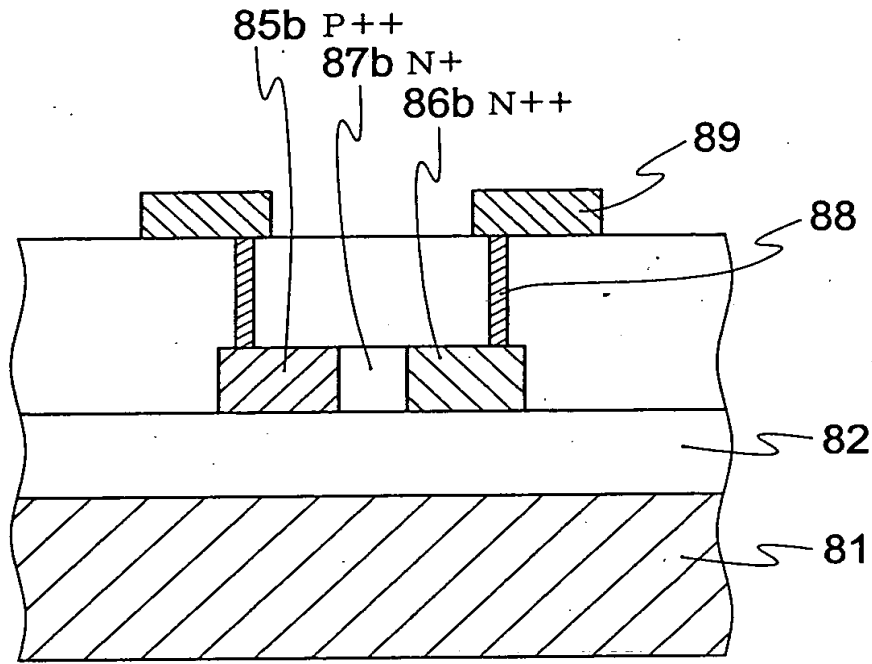


FIG. 30(b)

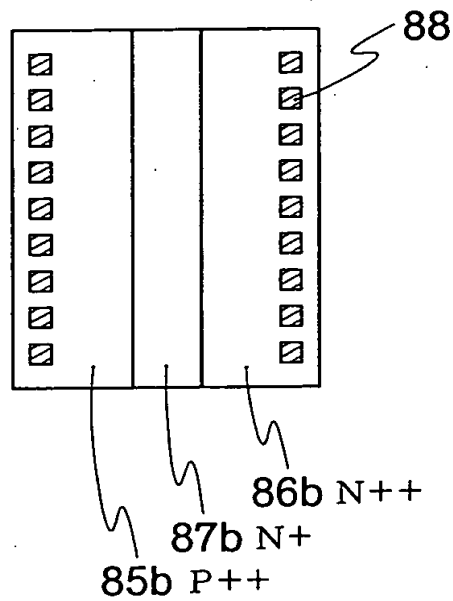


FIG. 31(a)

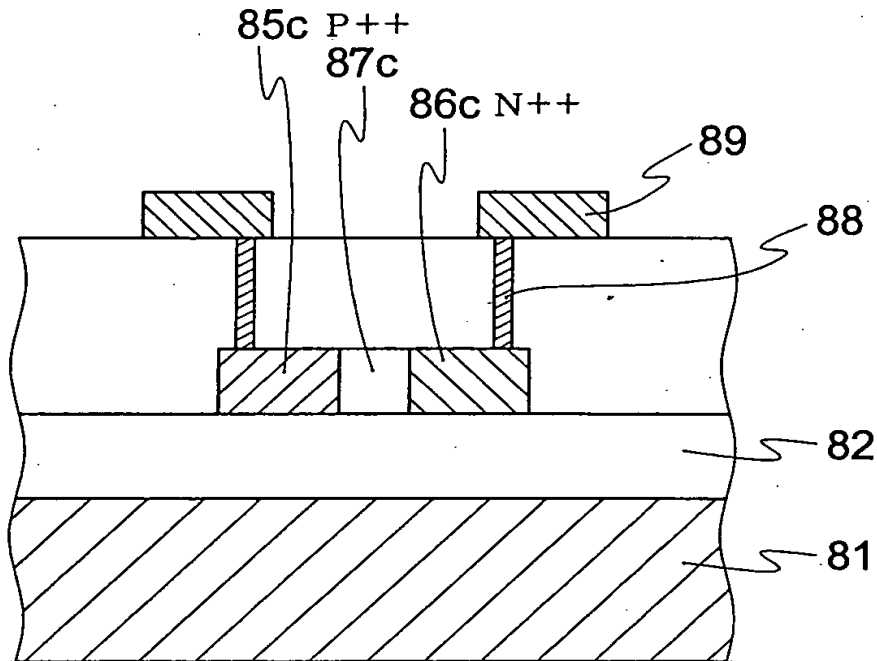


FIG. 31(b)

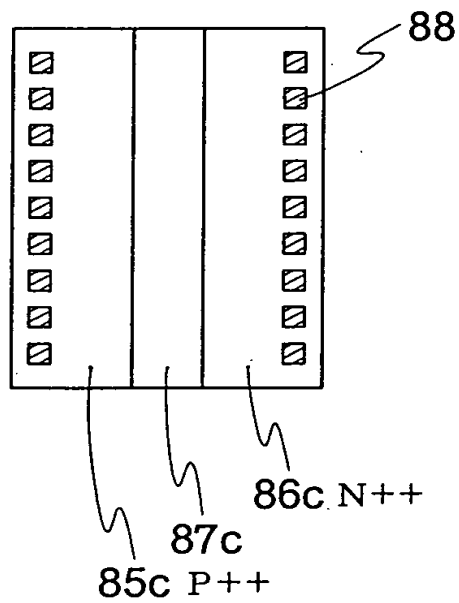


FIG. 32(a)

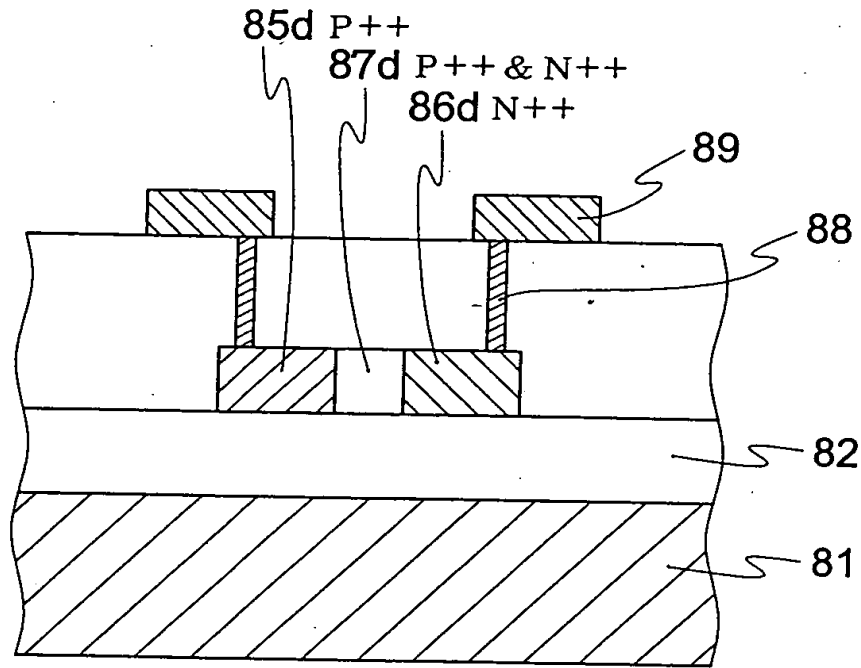


FIG. 32(b)

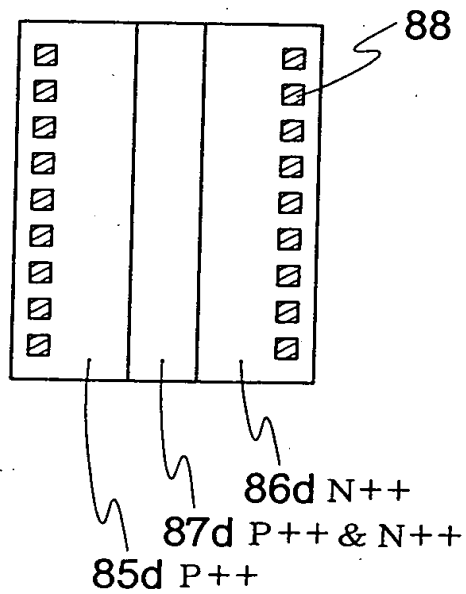
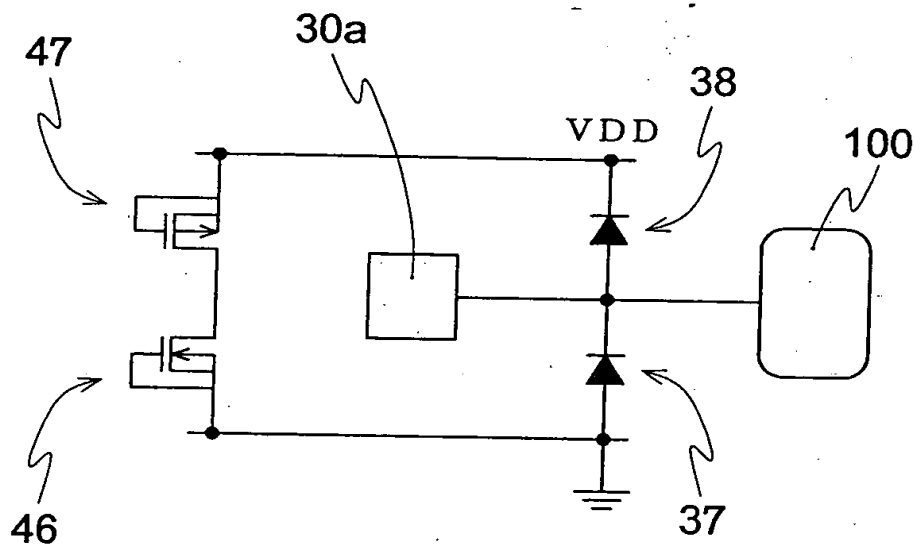




FIG. 33



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FIG. 34(a)

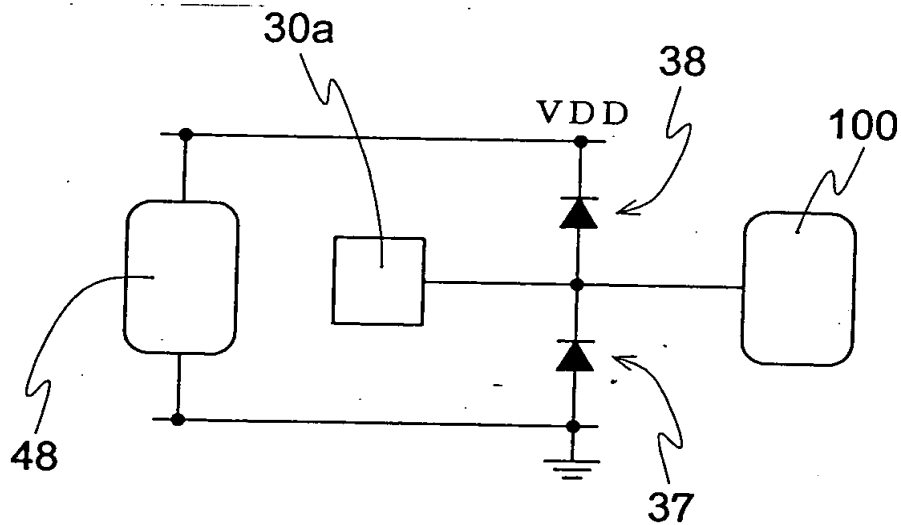


FIG. 34(b)

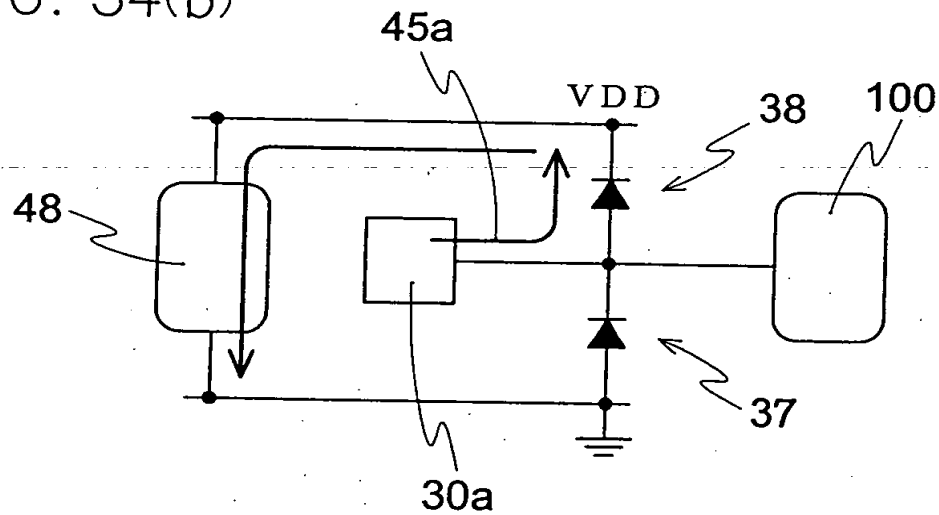


FIG. 34(c)

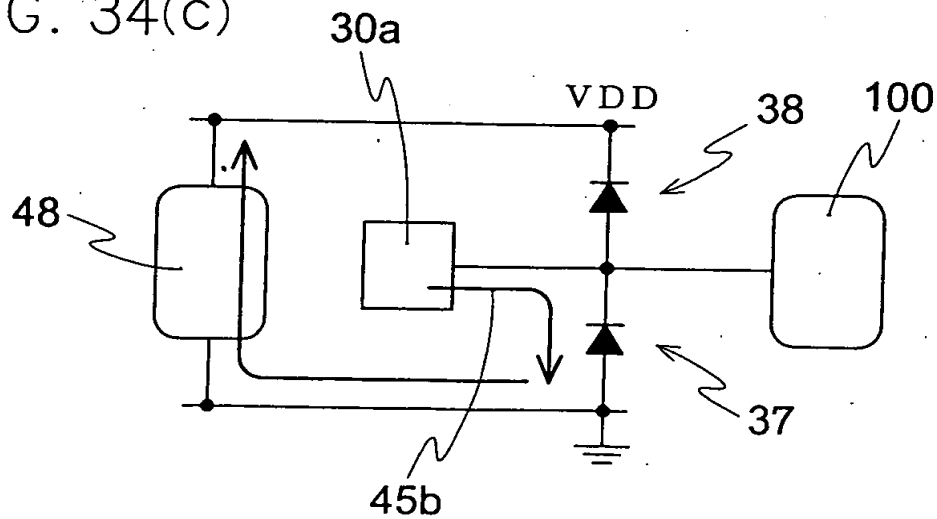


FIG. 35

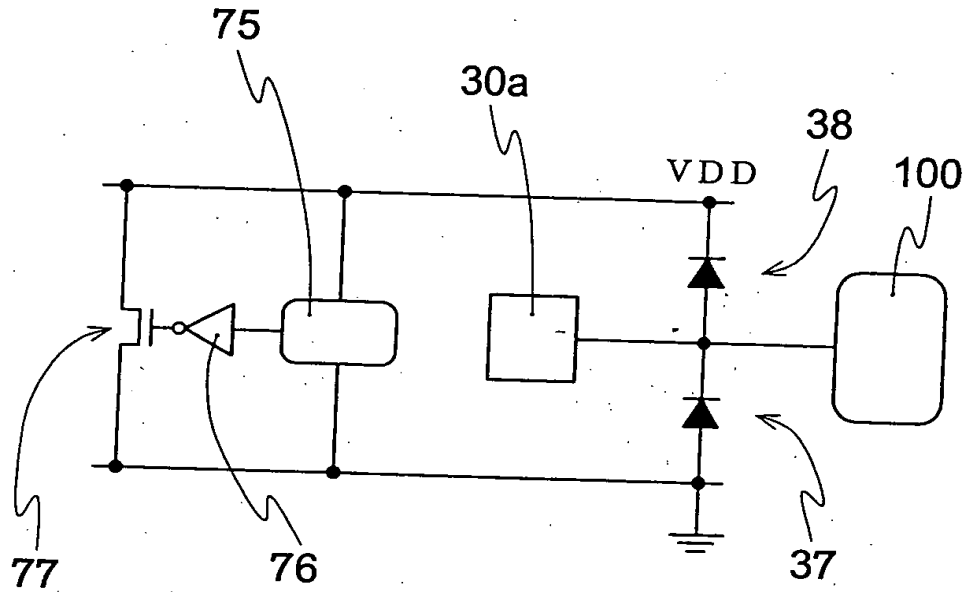


FIG. 36

